

REMARKS

The present Response does not amend, add, or cancel any claims. Hence, claims 13-26 remain pending in the application. Claims 1, 17, 20, and 25 are independent.

In the Office Action of June 10, 2004, the Examiner rejected claims 13-26 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,271,798 issued to Sandhu et al. ("Sandhu") in view of U.S. Patent 5,700,176 issued to Potter ("Potter"). These rejections are respectfully traversed. Accordingly, reconsideration and allowance of the application are requested.

The Examiner rejected Claims 13-26 as obvious over Sandhu in view of Potter. The Examiner alleges that the "background" section of the application discloses a method of forming an FED that includes, in part, selectively etching openings through the conductive and insulating layers. The Examiner further alleges that the background section admits that application of a wet etchant to uncover a structure is known in the art to effectively clear the marks without the use of photolithography. The Examiner specifically cites reference to page 4, para. 2 of the specification.

Regarding the references, the Examiner admits that Sandhu fails to disclose a semiconductor manufacturing method comprising a step of selectively spraying a wet etchant on an FED structure. Potter is relied upon as teaching a process for producing FEDs that utilizes fabrication processes and equipment similar to those used for semiconductor fabrication. However, the Office Action also states that "Potter further teaches contact pads are selectively provided at the device top surface to make electrical contact, which may require the same clearing method as described in Sandhu." (*Emphasis added*). See page 3, numbered paragraph 6. The Office Action concludes that it would have been obvious to one of ordinary skill in the art to construct an FED with the method of Sandhu and background section to allow for less pure materials and cheaper manufacturing methods.

Applicant respectfully disagrees with the allegations made in the Office Action. It appears that various passages of the specification may have been misinterpreted. First, the

background of the application does not provide any disclosure or suggestion for selectively etching through the conductive and insulating layers, as defined in the instant claims. Rather, the background discusses a conventional photolithography step to etch the insulating layer and conductive layer. Second, there is no admission, or disclosure, in the background section that application of a wet etchant to uncover a structure is known in the art to effectively clear the marks without the use of photolithography. Contrary to the Office Action's interpretation, the cited passage merely discusses conventional photolithography which involve development, etch, and strip sequences. The background (at the cited passage) goes on to state, "These photolithography processes are costly, complex and time consuming." It is unclear how such a discussion could relate to the instant claims, let alone render them obvious.

Applicant respectfully submits that neither of these passages suggests the selective etching described in the application and defined by the instant claims. As discussed in the specification, the selective etching can avoid costly photolithography, etch, and strip sequences. See page 8, para. 2.

The Office Action goes on to allege that "Potter further teaches contact pads are selectively provided at the device top surface to make electrical contact, which may require the same clearing method as described in Sandhu." (*Emphasis added*). This statement is somewhat confusing in that it fails to identify where, or how, Potter discloses the claimed feature. Rather, the Office Action states that the contact pads of Potter may require a certain clearing method. Applicant's review of Potter has failed to reveal any disclosure or suggestion for the claimed selective etch process. Potter appears to only discuss conventional photolithography steps, as described in the background. For example, see col. 9, line 66 to col. 10, line 8.

It appears that Potter is completely silent on the issue of selective etching as set forth in the claimed invention and described in the specification. However, mere silence cannot be interpreted by the Office Action as amounting to a disclosure or suggestion for a claimed feature.

Applicant further disagrees with the rejection under 35 U.S.C. §103 with respect to the art of record. The Office Action has failed to make a *prima facie* case of obviousness, which is necessary for sustaining such a rejection. In order to properly make a case of *prima facie* obviousness, the Federal Circuit and M.P.E.P. both require that three basic criteria be met. First, there must be some suggestion or motivation in the primary reference to modify, combine, or seek out the teachings of a secondary reference. Second, there must be a realistic expectation of success from combining the two references. Finally, the prior art references must clearly teach or suggest all the claim limitations. Applicant also notes that the burden is on the Patent Office to show what a reference teaches or suggests. Where the requisite teaching or suggestion is missing, the Office Action cannot broadly conclude that such teaching would be obvious by directing attention to some general description that is not related to the claims being examined.

According to one or more embodiments of the present invention, various methods are provided for making FEDs. The inventions defined by the independent claims all require a step of selectively etching. For example, independent claim 13 recites, in part, “wherein said step of making a cathode assembly includes the step of locally applying an etchant to uncover a structure in the peripheral area of the cathode assembly.” Independent claim 17 recites, in part, “wherein said step of making an anode assembly includes the step of locally applying an etchant to uncover a structure in the peripheral region of the anode assembly.” Independent claim 20 recites, in part, “selectively etching openings through the conductive and insulating layers to expose the micropoints, with walls defining the openings being spaced away from the micropoints.” Independent claim 25 recites, in part, “selectively applying localized etchant on the alignment marks while inhibiting application of the etchant on the central region to clear the marks of material deposited thereon.”

In the present case, the Office Action has not indicated where, or how, Sandhu provides a suggestion or motivation to seek out the teachings of Potter to arrive at the invention defined by any of the claims. In particular, neither reference discloses or suggest specific features recited in claims 13, 17, 20, and 25. The Office Action makes a bold conclusory statement that Potter’s contact pads may require some method that is described in Sandhu. Again, it is

improper for the Office Action to construe the reference's silence as a disclosure or suggestion for a feature that is recited in the instant claims. This further amounts to hindsight reconstruction, which the courts have consistently found to be impermissible. There can also be no realistic expectation of success, because the combination is improper. Even if such combination were proper, one would still not arrive at the claimed invention because neither reference teaches a selective etching technique as defined by the present claims. For example, Sandhu discloses a wet etch process that requires positioning the wafer surface in relation to an apparatus such that a leak proof seal is provided between the layer being etched and the perimeter of the seal. Col. 3, lines 1-4. Potter only appears to suggest conventional photolithography steps.

Applicant respectfully submits that the Office Action has failed to (a) make a *prima facie* case of obviousness and (b) meet its burden of showing what the references teach or suggest.

It is therefore respectfully submitted that independent claims 13, 17, 20, and 25 are patentable over the art of record.

Claims 14-16 depend from independent claims 13. Claims 18 and 19 depend from independent claim 17. Claims 21-24 depend from independent claim 20. Claim 26 depends from independent claims 25. These claims are therefore believed allowable for at least the reasons set forth above. In addition, these claims each introduce novel elements that independently render them patentable over the art of record.

For the reasons stated above, it is respectfully submitted that the application and all of the pending claims (13-26) are now in condition for allowance. Accordingly, the issuance of a Notice of Allowance is respectfully requested, and courteously solicited.

The Examiner is invited to contact the undersigned, if it is believed that such contact would further the examination of the present application.

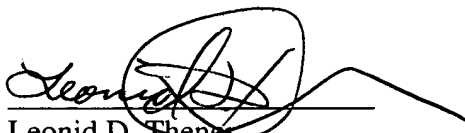
Application Serial No. 09/775,920
Amendment dated September 8, 2004
Reply to Office Action dated June 10, 2004

AUTHORIZATION

The Commissioner is hereby authorized to charge any additional fees, which may be required for this Amendment, or credit any overpayment to deposit account no. 08-0219.

In the event that an extension of time is required, or which may be required in addition to that requested in a petition for an extension of time, the Commissioner is requested to grant a petition for that extension of time which is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to deposit account no. 08-0219.

Respectfully submitted,


Leonid D. Thener
Reg. No. 39,397

Wilmer Cutler Pickering
Hale and Dorr LLP
The Willard Office Building
1455 Pennsylvania Avenue, N.W.
Washington, DC 20004
Dated: 8 Sep. 2004